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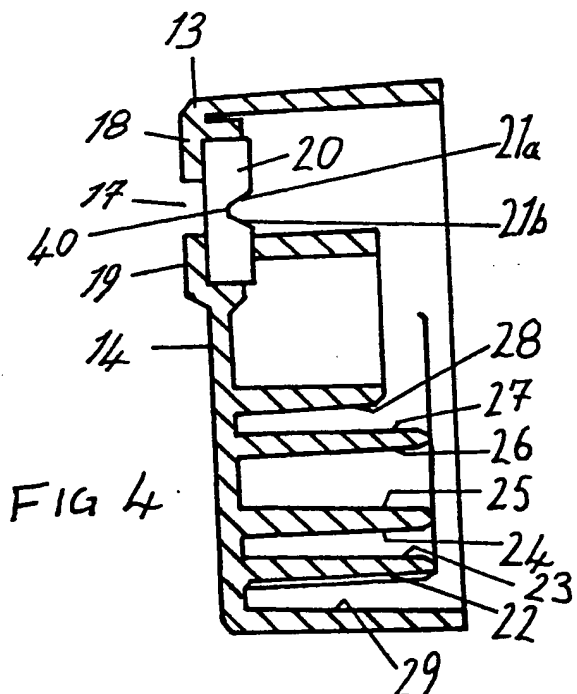
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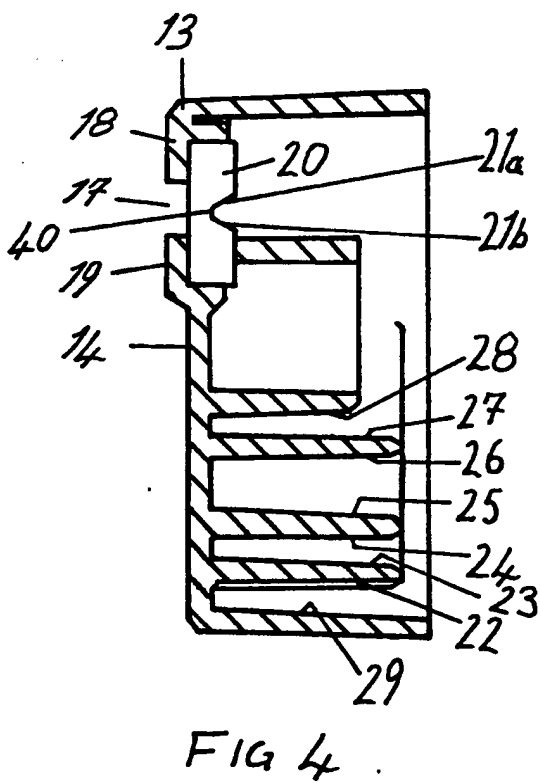
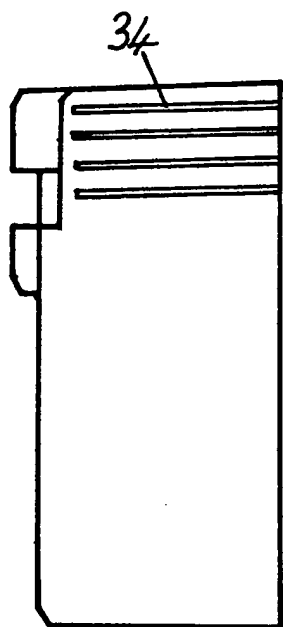
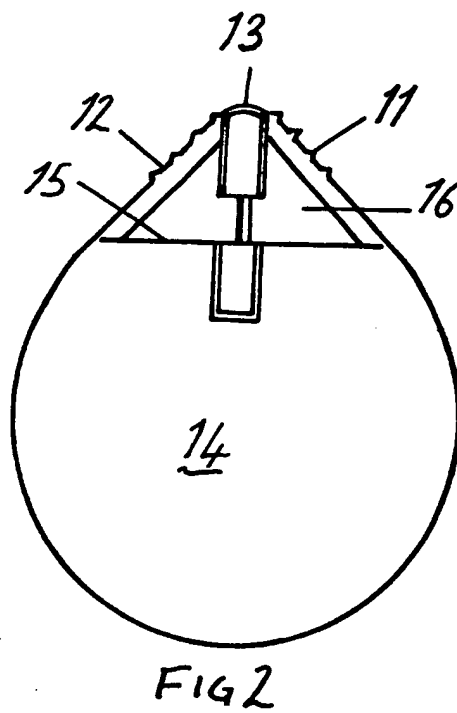
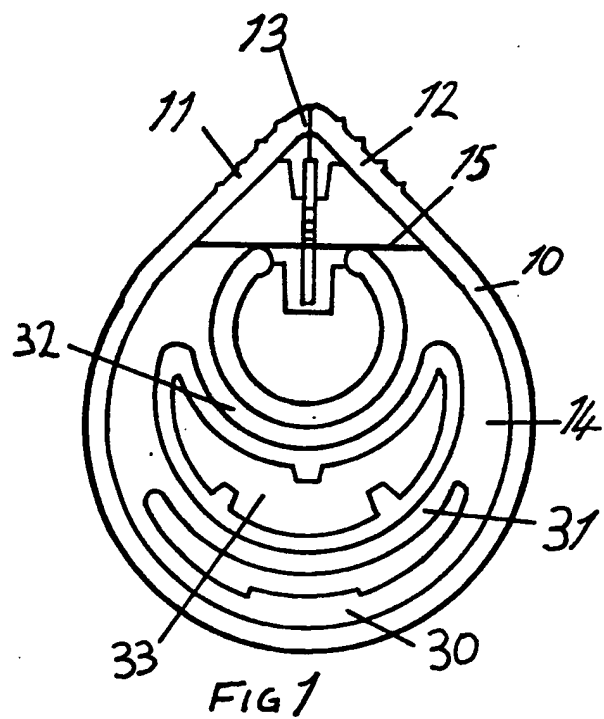
(54) **Pipe end dressing device**

(57) The device, for dressing the end of an elongate pipe of circular cross-section, comprises a blade 20 with a V-shaped notch 21, which has opposed angled scraping edges 21a, 21b arranged to simultaneously chamfer the end wall surfaces of a pipe on both its radially inner and outer wall surfaces; the device further comprises a body with a base plate 14 and a series of guide members 22 to 29 defining a series of channels for fixing the spacing between edges 21a, 21b and the axis of the pipe.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.
 This print incorporates corrections made under Section 117(1) of the Patents Act 1977.

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Pipe End Dressing Device

This invention relates to a dressing device for the end of a circular pipe.

Pipe end dressing devices which enable the radially outer surface of the pipe end to be chamfered are known, for example, from GB1131308 and US3807258.

We have now devised an improved pipe end dressing device which is in addition arranged to chamfer the radially inner surface of the pipe end.

According to the present invention, therefore, there is provided a device for dressing the end of an elongate pipe of circular cross-section, which device comprises

- a) dressing means comprising a first blade element arranged to chamfer an outer edge of said end and a second blade element arranged to chamfer an inner edge of said end; and
- b) a body member for locating said dressing means, which body member comprises a face portion arranged, in use, to lie adjacent to or abutting said end, and at least one guide member for fixing the spacing between said dressing means and the axis of said pipe.

The device according to the invention is arranged to be fitted to the end of the pipe to be dressed and to be rotated on the end around the axis of the pipe (or the pipe rotated about its axis with the device fixed), so as to chamfer both the radially external and internal surfaces of the pipe.

Preferably the dressing means is in the form of a unitary member having opposed straight-edged first and second blade elements for respectively chamfering the inner and outer edges at the end of the pipe; the blade element need not have a sharp edge for cutting the end of the pipe, but may in some preferred embodiments be shaped such that it has a scraping action on the respective surfaces of the pipe.

The edges of the first and second blade elements are preferably inclined relative to the axis of the pipe, typically such that they are at an angle of less than 90 degrees to one another.

It is further preferred that the unitary member has a straight portion located between the first and second blade elements, which straight portion is preferably substantially coplanar with the face portion of the body member, and arranged to remove material from the butt end of the pipe.

Preferably, the dressing means comprises a blade having a plane including not only the rotational axis of the device but also the radial direction to the rotational axis. Such dressing means may be a blade with a V-shaped cutting edge which engages with the pipe end so that one limb of the V is arranged to chamfer the radially outer surface of the pipe end while the other limb of the V is arranged to chamfer the radially inner surface of the pipe end.

It is preferred that a plurality of guide members are provided on the body member projecting from the face portion, each guide member being circumferentially spaced from the dressing means by a different distance, such that the separation between each guide member and the dressing means corresponds to a different outside diameter of pipe to be dressed.

For a better understanding of the present invention, and to show more clearly how the same may be put into operation, reference will now be made, by way of example, to the accompanying drawings, in which:

Figure 1 is a view from one end of an embodiment of dressing device in accordance with the invention;

Figure 2 is a view of the device from its other end;

Figure 3 is a transverse view of the device; and

Figure 4 is a section on a diameter of the device.

Referring to all four of the drawings, the device comprises a substantially circular wall surface 10 with first and second straight surface portions 11 and 12, tangential to the main circle of the wall 10, the tangential portions 11 and 12 meeting at an apex 13. At the base of the wall surface 10 is a base plate 14, but this plate does not extend all the way to the apex 13 but instead terminates at an edge 15 to leave a through aperture 16 between the edge 15 and the apex 13.

Spanning the aperture 16, and in particular the gap 17 between a first blade support portion 19 on the base plate 14 near its edge 15, is a scraper 20 with a V-shaped notch 21, which has opposed angled scraping edges 21a, 21b adapted to chamfer the end wall surface of a pipe (not shown) on both its radially inner and outer wall surfaces, simultaneously.

At the apex of the V shaped notch 21 is an upright portion 40 which lies substantially level with the base plate 14, and serves to limit the extent of chamfer imparted to the radially outer and inner surfaces of the pipe (not shown).

Extending perpendicularly to the base plate 14, parallel to the circumferential wall 10 are a plurality of guide channel walls 22 to 28 which, together with the inward facing surface 29 of the circular peripheral wall 10, define three separate channels of different curvature. Thus, a first channel 30 is defined by the wall surfaces 22 and 29, a second channel 31 is defined by wall surfaces 23 and 24, and a third channel 32 is defined by wall surfaces 27 and 28. Wall surfaces 25 and 26 face into void 33. For each of the channels 30, 31 and 32, the cutting edge 21 lies on a circle which includes the arcuate channel in question. Thus, engagement of one of these three channels of the dressing device with the end of a pipe of that same diameter will bring the end surface of the pipe into engagement with the cutting edge 21. At the tangential portions 11 and 12, the external surface of the wall 10 is knurled, with small axially-extending ridges 34.

In use, the pipe to be dressed is fitted into the appropriate one of the three guide channels 30, 31 and 32, so that the end of the pipe contacts the edges 21a, 21b. Then the dressing device is manually rotated about the longitudinal axis of the pipe, and here the ridges 34 on the external surface of the dressing device assist the fingers and thumb to grip the device as it is rotated on the pipe. This rotation advances the edges 21a, 21b around the circumference of the pipe end and, with appropriate manually-applied end pressure of the device on the pipe end, the edges 21a, 21b will produce the required chamfer on both the radially inner and outer surfaces of the pipe end.

Claims

1. A device for dressing the end of an elongate pipe of circular cross-section, which device comprises
 - a) dressing means comprising a first blade element arranged to chamfer an outer edge of said end and a second blade element arranged to chamfer an inner edge of said end; and
 - b) a body member for locating said dressing means, which body member comprises a face portion arranged, in use, to lie adjacent to or abutting said end, and at least one guide member for fixing the spacing between said dressing means and the axis of said pipe.
2. A device according to claim 1, wherein said dressing means is in the form of a unitary member having opposed straight-edged first and second blade elements for respectively chamfering the inner and outer edges at the end of the pipe.
3. A device according to claim 2, wherein said unitary member comprises a straight portion located between said first and second blade elements.
4. A device according to claim 3, wherein said straight portion is substantially coplanar with the face portion of said body member.
5. A device according to any of claims 1 to 4, in which the edges of the first and second blade elements are inclined relative to the axis of the pipe, at an acute angle to one another.

6. A device according to any of claims 1 to 5, in which said dressing means comprises a blade having a plane including not only the rotational axis of the device but also the radial direction to the rotational axis thereof.
7. A device according to any of claims 1 to 6, which comprises a plurality of said guide members, each projecting from said face portion and being circumferentially spaced from said dressing means by a different distance, such that the separation between each said guide member and said dressing means corresponds to a different outside diameter of pipe to be dressed.
8. A device for dressing the end of an elongate pipe of circular cross-section, substantially as described herein with reference to Figures 1 to 4 of the accompanying drawings.